SENSES OF INSECTS.

Some of Them Are More Acute than Those of Human Beings.

The address on "Social Insects," delivered some time ago by Prof. Riley at the Washington Biological society, has just been printed. Of the five ordinary senses recognized in ourselves and most higher animals, insects have, we are told, the sense of sight, and there can be little questions that they possess also the senses of touch, smell and hearing. Yet, save perhaps that of touch, none of these senses, as possessed by insects, can be strictly compared with our own, while there is the best of evidence that insects possess other senses which we do not, and that they have sense organs with which we have none to compare.

Taking first the sense of sight, much has been written as to the picture which the compound eye of insects produces upon the brain or upon the nerve centers. Most insects which undergo complete metamorphosis possess in their adolescent states simple eyes or ocelli and sometimes' groups of them of varying size and in varying situations. It is impossible to demonstrate experimentally their efficiency as organs of sight; the probabilities are that they give out the faintest impressions, but otherwise act as do our own. In the image state the great majority of insects have their simple eyes in addition to the compound eyes.

So far as experiments have gone, they show that insects have a keen color sense, though here again their sensations of color differ from those produced upon us. The sense of touch is supposed to reside chiefly in the antennæ, or feelers, though it requiries but the simplest observation to show that with soft-bodied insects the sense of smell is more acute than in the antennæ in most insects. It is, however, evidently more specialized in the maxillary and labial palpi and in the tongue than in the antennæ in most insects. Very little can be positively proved as to the sense of taste of insects; but that insects possess the power of smell is a matter of common observation, and has been experimentally proved.

It is the acuteness of the sense of smell which attracts many insects so unerring to given objects, and which has led many people to believe them sharp-sighted. Moreover, the innumerable glands and special organs for secreting odors furnish the strongest indirect proof of the same fact. In regard to the sense of hearing, the most casual experimentation will show that most insects, while keenly alive to the slightest movements or vibrations, are for the most part deaf to the sounds which affect us. That they have a sense of sound is equally certain, but its range is very different from ours.

The fact that so many insects have the power of producing sounds that are even audible to us is the best evidence that they possess audible organs. In the matter of special senses, which it is difficult for us to comprehend, that of direction is most marked, and many furnish striking instances of the manner in which this sense is developed.—Insect Life.

THE HEAD OF RICHELIEU.

Its Recent Exhibition and Past Experience.

The opening of the coffin in Richelieu's tomb at the Sorbonne has led to some interesting rectifications. It is known that all these tombs were profaned and their contents scattered to the winds in December, 1893, by the maniacs of the revolution. While the workmen were at their luncheon a hosier from a neighboring street, a certain Cheval, slipped into the church, opened Richelieu's coffin, which the others were not yet done with, and made off with its whole upper part, containing the head. He showed it to one of the proscribed priests, the Abbe Armez, whose hiding place he knew, and who at once recognized the well-known face of the contemporary paintings. When the Terror was over and order was partly restored Cheval feared that he might be prosecuted with the rest, and so got rid of his dangerous treasure by handing it over to the abbe. The latter deposited it with his brother, who was mayor of a town in one of the northern provinces. The son of the mayor became a deputy under Louis Philippe and brought the head with him to Paris. Here it was shown privately to some of his friends, among whom was Victor Cousins, the philosopher and historian of Richelieu's time.

At last, in 1866, the Armez family asked to restore to head to the tomb in the Sorbonne, which was repaired to receive it. M. Victor Duruy, minister of public instruction, and Archbishop Darboy declared themselves satisfied with the evidence furnished, and the sepulture was made publicly. It is this head which was again exposed to view the other day in the presence of M. Hanotaux, the greatest historian of the cardinal, and, contrary to what was first said, of the princess of Monaco, formerly wife of the late duke of Richelieu, and representing her son, the present duke. M. Hanotaux was able to dissipate some of the few doubts which remained as to the genuineness of the relic. The fact of the cutting off of the beard, which I noticed, could scarcely have been imagined by an impostor (besides, there has never been any motive for willful deceit). But M. Hanotaux has also had the contemporary bust by Warrin, a sculptor who was in the habit of accurately measuring his subjects, compared with the measurements of the skull now in the tomb, as made in 1866 by Col. Duhousset. It will henceforth be generally admitted that the head of the statesman-cardinal, which has shared in the vicissitudes of France, really reposes in this interesting tomb.—N. Y. Post.

Simply Following Instructions.

"You say that I'm not altogether objectionable to your parents," he said, ruefully.

"No," she replied: "father and mother both speak very highly of you."

"Then why does the big dog assault me every time I come near and chew a piece out of my clothes?"

"Oh, you mustn't mind Brutus. He's trained to do that. Aunty has gotten almost enough samples from him to make a lovely patch-work quilt."—Washington Star.

No Doubt About It.

Mrs. Fairview—Doctor, do you think my husband fully realizes his condition?

The Doctor—I do. He asked me today if I was a married man.—Life.

DOMESTIC CONCERNS.

—Potted Veal: Chop cold cooked veal very fine, season to taste with salt and pepper and mash to a paste. Take an equal quantity of lean cooked chopped ham or tongue and press in alternate layers in a pot or jar. Pour liquid butter over the top and cover. When served, cut in slices.—Prairie Farmer.

—Snowball Pudding: Wash two teacups of rice and boil until tender. Pare and core (leaving apples whole) twelve large, sour apples. Fill the apples with the cooked rice and put it around the outside. Tie each one in a separate cloth and drop in boiling water. Cook until soft, then serve while hot with cream and sugar or any desired sauce.—Western Rural.

—Fresh Fruit Jelly: Soak one ounce of gelatine in a little cold water. Then add to it one pint of boiling water and half a pound of sugar. Put a quart or three pints of fresh fruit into a preserving pan, and when it is thoroughly warm squeeze the juice through a cloth. Add the juice to the gelatine. Mix well, strain through muslin, and pour into a wetted mold. Serve with cream or custard.—Leeds Mercury.

—Yorkshire Pudding: Take two tablespoonfuls of flour and one teaspoonful of salt; make a well in the flour and break in one egg; do not stir, but beat all together, with half a cup of milk, and add water until of the consistency of fresh, thick cream. At the end of an hour, bake twenty minutes in a hot oven. Have plenty of drippings in the pan and turn like a griddle cake, when it is half done.—Housekeeper.

—Apple Custard: Select ten medium-sized apples, with a small knife cut a hole through the middle of the apples, thus taking out the core. Place in a deep dish (a cake tin will do), fill the holes full of sugar and bake in a hot oven until done. Make a custard of three eggs, one quart of sweet milk, four tablespoonfuls of sugar, and spice to taste. Pour the custard over the apples while hot, bake till the custard is done, then set away to cool. Eat cold.—Western Rural.

—Baked Fish: Let the fish lie in cold water, slightly salted, for an hour before cooking it. Place the gridiron over the dripping pan, with a little hot water in it; place the fish carefully prepared for baking upon the gridiron, and bake in a hot oven; just before done, butter it well on top, and brown nicely. The time of baking depends upon the size of the fish. A small fish generally requires a half hour's time; a large one fully an hour. Make a sauce from the gravy in the dripping pan; add a tablespoonful of catsup, another of some pungent sauce, and the juice of a lemon. Thicken with brown flour moistened with cold water. Garnish the fish with sprigs of parsley and currant jelly.—Prairie Farmer.

GLOVES FOR FALL WEAR.

Stylish Hand Ware for Followers of the Fashions.

The makers of men's gloves recognizing the disposition of the new woman to lay claim to all the masculine belongings she can appropriate, are manufacturing gloves in women's sizes and in men's styles. They are of heavy tan or red dogskin, with one or at most two buttons. More generally clasps are used, and the new woman thereby escapes one of her hated domestic duties—that of sewing on buttons. There is no doubt that these gloves wear better and are better made than the majority of thin kid ones hastily put together for woman's wear. But they are far from shapely.

No street glove with any claim to distinction is fastened nowadays with the small pearl button once in form. The smallest one allowable is a well-cut pearl or bone one approaching an old-fashioned three-cent piece in size. They range from this to sizes a little larger than a dime. They are colored to match the kid to a certain degree.

The stitching on short gloves is quite heavy, but is not in the broad lines fashionable a short time ago. It is generally of the same color as the gloves, except when they are very light. White and lemon-colored glazed kid gloves have black stitching, but the red tan and gray ones are stitched in their own colors.

The day of the glazed kid glove for dress occasions seems about over. The soft, dull suedes are once more popular and glazed kid is regarded as a poor substitute for the heavy dogskin gloves dear to the tailor-made girl.—N. Y. World.

Corn on the Cob.

Corn served "au naturel" is impossible to eat daintily and becomingly. You always agree with the New Englander whose advice about eating an orange was, if you want to have a real good time with it, you must go behind the barn. It should never be brought upon the table save as one of those dear old homely dishes of which we are all somewhat ashamed and at the some time very fond, and of which we all partake only in the bosom of our family. A Yankee clergyman electrified a tableful of young women recently, at their common summer boardinghouse by producing an invention of his own for the purpose of holding an ear of corn while he ate from it. It was in the shape of two spools, each holding a stout darning-needle. The latter penetrated the cob, and the spools were held in the hands. Its worthy owner evidently had no idea that it was not an extremely clever notion, and he is a very popular clergyman, too.—Philadelphia Press.

Light in the Sickroom

An experienced physician says there is nothing more gloomy and depressing to the spirits of a patient than dark sickrooms. If the light hurts the patient's eyes let him be shielded from it by a screen or curtain, but admit the sunlight as freely as possible to the rest of the room. Shield the lamp or gaslight with a shade, but let the light be kept up while the patient is awake. In short, everything must be done that can to maintain a cheerful, as well as a neat, appearance in all that belongs to the surrounding of the invalid.—N. Y. Tribune.

—"Did you see that trolley-car go by without any lights just now?" "Yes." "Why don't they light it up?" "They don't want to. That's their special courtship car. They run one every hour during the summer and autumn for people of moderate means and no facilities for courting at home."—Harper's Bazar.

—It is with sorrows as with countries—each man has his own.—Chateaubriand.

AGRICULTURAL HINTS.

GOOD THOROUGHFARES.

Like Charity, This Writer Thinks, They Should Begin at Home.

All things considered—youth and overgrowth, inexperience and carelessness, and, in the majority of cases, lack of opportunity to judge by comparison—the United States has kept reasonable pace with other nations in the matter of roadways. There is an appalling territory to be covered, beside which the establishing of good roads in European countries seems like child's play. One of the chief troubles in America has been the rapid development of our tremendous railway system, which has absorbed the time, attention and capital of men and companies who have given thought to conditions of communications between districts. Far-reaching and essential as this mode of conveyance is, it must be remembered that the finest railroad in the world in no way lessens the local need of good roads in the communities through which it passes.

While one naturally expects to find the greatest degree of comfort in these matters in the oldest settlements, it is a fact beyond dispute that the younger ities of the west are far better paved than eastern cities generations older, while country roads in populous districts average as good. In no other matter do men so easily reconcile themselves to indifferent and inefficient service. The amount of discomfort endured daily in cities paved with granite blocks, for instance, is past computation. Irregular of surface, noisy, dirty, hard alike on horse and on vehicle, this barbarous system has had but one merit to recommend it: It is durable. Considering its manifold discomforts, this is rather a fault than a virtue.

Other materials are durable, cleaner, more comfortable in every respect, and yet are vigorously fought against by partisans of the granite blocks, who are jounced about in carriages and deafened by noise without realizing the degree of discomfort to which they subject themselves. No sane man would elect to wear a hair-cloth shirt because it was durable and seldom required change, for he would consider the many forms of creature comfort sacrificed to this sort of economy. Yet few people seem to realize that granite pavements are the hair shirts of communities, and that the day for mortifying the flesh has long gone past in civilized countries.

Good thoroughfares, like charity, should begin at home. On the day when each commonwealth, after careful investigation and satisfactory tests, unbiased by bribery, preferment or political affinity and reward, compels by act of law the laying of whatever form of paving has been demonstrated as best for city and country use—on that day the millennium may be described approaching. Then the American tally-ho coach will exist with reason, because of (and not despite the lack of) fitting roads along which to roll its picturesque expense. Parties planning pedestrian tours will not have to cross the seas to find a starting-point for their itinerary; country homes will be more sought for and more enjoyed; and the native American will begin to form an acquaintance with the undreamed-of beauties of his own land, based upon something besides snap-shot glimpses from a railroad train, and deepened into an interest and admiration made possible only through the intimacy begotten of good roads.—Marion Manville Pope, in Lippincott's Magazine.

GOOD ROADS EDUCATION.

Slowly But Surely Light Is Breaking in City and Country.

After all that has been written and said concerning the material required for the construction of good roads, the thing that is really most needed is a good and widely diffused quality of brains.

Clay, sand, gravel, asphalt and granite do not make good roads until mixed with a proper amount of gray brain matter. It is this last-named ingredient that the country most sadly lacks.

There are many signs of better things in the making of roads. The whole people are just now going to school for the purpose of learning how to make a good road. Most of them are yet in the primary grades, but there is likely to be a time for graduating by and by when road makers have learned all about materials and grades and drainage and other important branches of the subject of good roads.

When the people really get to thinking on this matter they will promptly do away with those splendidly designed machines for destroying roads, namely, heavily-loaded, narrow-tired vehicles. This is only one of many instances in which brain matter will enter into the building and keeping of good roads.

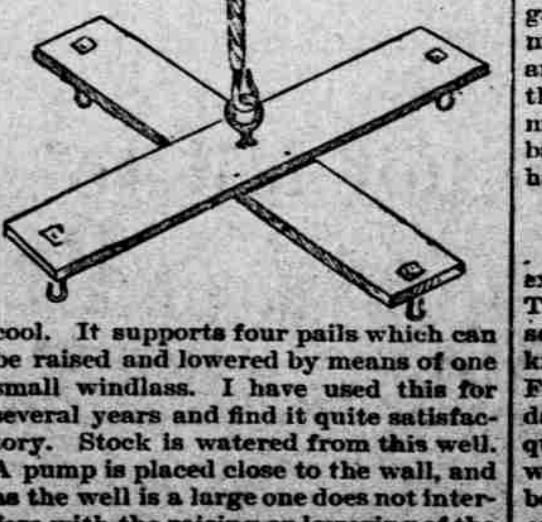
Secretary Morton has called a good roads convention to meet at Atlanta while the exposition is in progress. This should prove a good step in the campaign of education. Many of the county fairs are this year holding a "good roads" day, which proves that the farmers are taking up this question, which is of more vital interest to them than to any other class.

All in all the friends of good roads—which means the whole people—have every reason to confidently expect marked improvement in the character of the public highways.—Good Roads.

FOR COOLING MILK.

A Simple Contrivance Suitable for Use on Small Dairy Farms.

The accompanying illustration represents a device by which vessels containing milk can be hung in a well and kept



cool. It supports four pails which can be raised and lowered by means of one small windlass. I have used this for several years and find it quite satisfactory. Stock is watered from this well. A pump is placed close to the wall, and as the well is a large one does not interfere with the raising or lowering of the milk pails.—M. H. Whitney, in American Agriculturist.

SOME VALUABLE HINTS.

How to Raise Peach and Plum Trees from the Pits.

A. J. Keller, Crawford county, O., writes to the National Stockman: Please inform me through the columns of your valuable paper how to raise plum and peach trees from the pits; how to treat the pits and when to plant them; and when to transplant the trees; and how to treat them to make them bear fruit.

Reply: The pits do better not to dry out. As soon as possible after they are taken from the fruit they should be put in damp earth or sand and kept moderately damp—not water-soaked—until planted. They are less trouble when planted in the fall as soon as the ground can be got ready. Covered with about two inches of soil, the exposure to the frost will crack the shells and the kernels will be ready to grow with the approach of spring.

If not convenient to plant in the fall, they can be kept covered with a few inches of soil in a corner of the garden where water will not stand permanently. But they must be looked after very early in spring in order to pick out the ones that have opened and plant them.

This tendency to start early before the ground is ready to receive them has induced some to bury them below the action of frost—two or two and a half feet—and when ready for them in spring, take them up and crack by hand, a somewhat tedious process.

In planting the seeds, in either case they should be pretty thick in the rows, as they will not all grow. The rows may be about four feet apart, and with cultivation every ten days or so during the growing season they will make nice trees by fall.

It will be understood, of course, that all these will vary more or less from the present varieties, and that their sole value—except where seedlings of a certain sort are specially desired by way of experiment—will be as stocks on which to bud the choice varieties.

When the budding has been successful the buds treated according to instructions will have grown to be four or more feet high by the end of the second summer and may be set out in the orchard. But peach, plum and cherry do better transplanted in the spring.

As to the bearing, much depends on the varieties, some being more certain than others; and all must take the chances of unfavorable seasons.

GREENHOUSE MELONS.

How They Are Grown at the Cornell Experiment Station.

A recent bulletin issued by the Cornell University Experiment station treats on the subject of growing winter melons. Prof. Bailey thinks that while the melon is admittedly the most difficult vegetable crop to mature in the winter months, it can no doubt often be

MELON IN GREENHOUSE.

added with profit to those houses which are fitted for the growing of frame cucumbers or tomatoes. Growers for profit, however, will do well to go slowly. The great difficulty in making melons profitable is the usually very light yield, a plant producing only two or three melons. Unless the price obtained is a very high one such a yield does not pay. Much depends also on the season. To mature melons we need sunshine, and this is often a scarce article during the earlier part of the winter. Last year, during October, November and December, we had plenty of it.

The melon vines are usually trained on wires. The melons have to be supported in some way. Prof. Bailey's way is shown in the accompanying picture.

The gardener at the station in Geneva supports his melons on little pieces of thin board, about five by six inches, which are hung up on the cross wires by strings. The latter plan is perhaps slightly preferable.—American Gardening.

ORCHARD AND GARDEN.

If worms are eating the grape leaves a solution of white hellebore will stop them.

The shoots of asparagus should always be allowed to grow three or four inches high before cutting.

In eating grapes do not swallow the seed. Might as well swallow pebbles. The human stomach ought not to be made to play the part of that of an ostrich.

If a weed is allowed to go to seed it will multiply itself many times next year. Nothing is so economical on the farm as preventing weeds from going to seed.

Will tomatoes from seed sown in the open ground do as well as if sown under glass and transplant? we are asked. Yes, and sometimes better under favorable conditions.

One of our subscribers complains that though his plum trees bloom well, they do not fruit. Probably they are not fertilized. It is always desirable to set plums of different kinds in an orchard to insure fertilization.

Water can often be applied to the garden without much trouble. A windmill, tank and hose will do the work, and if the soil is of the proper kind, and the garden is for market purposes, it may pay to irrigate. But if the soil bakes under irrigation. But if the soil harm than good.—Farmer's Voice.

Can't Afford Poor Milkers.

Every cow of a dairy herd should be examined through a Babcock tester. The milk should be weighed and tested so that the unprofitable cow should be known and weeded out from the herd. Farmers can't afford to keep cows for dairy purposes which do not yield quantities of butter or cheese pretty well up to standard record. Both labor and feed must be wasted if the cows which give less than average quantity of butter fat or casein are not turned over to the butcher.

"What is that place down there?" asked she of one of the officers. "Why, that is the steerage," answered he. "And does it take all those people to make the boat go straight?"—Tit-Bits.

THE MARKETS.

New York, October 28, 1895.

CATTLE—Native Steers	$ 3 25	@	$ 4 65
COTTON—Middling	8¼	@	8⅝
FLOUR—Winter Wheat	3 50	@	4 40
WHEAT—No. 2 Red	....	@	70¾
CORN—No. 2	....	@	40
OATS—No. 2	....	@	21
PORK—New Mess	9 75	@	10 25
ST. LOUIS.			
COTTON—Middling	....	@	8½
BEEVES—Fancy Steers	4 90	@	5 40
Medium	4 00	@	4 65
HOGS—Fair to Select	3 60	@	3 85
SHEEP—Fair to Choice	2 15	@	2 90
FLOUR—Patents	3 20	@	3 30
Fancy to Extra do.	2 75	@	3 10
WHEAT—No. 2 Red Winter	63½	@	64¼
CORN—No. 2 Mixed	27¾	@	27½
OATS—No. 2	...	@	17½
RYE—No. 2	36½	@	38½
TOBACCO—Lugs	3 00	@	8 00
Leaf Burley	4 50	@	12 00
HAY—Clear Timothy	9 50	@	12 50
BUTTER—Choice Dairy	16	@	18
EGGS—Fresh	13½	@	15
PORK—Standard Mess	8 50	@	8 62½
BACON—Clear Rib	5⅝	@	5¾
LARD—Prime Steam	5⅜	@	5½
CHICAGO.			
CATTLE—Shipping	3 15	@	5 25
HOGS—Fair to Choice	3 30	@	3 90
SHEEP—Fair to Choice	2 75	@	3 90
FLOUR—Winter Patents	3 00	@	3 50
Spring Patents	3 15	@	3 50
WHEAT—No. 2 Spring	59¾	@	60¾
No 2 Red	6?¼	@	61½
CORN—No. 2	31⅞	@	32⅞
OATS—No. 2	....	@	18¾
PORK—Mess (new)	8 12½	@	8 25
KANSAS CITY			
CATTLE—Shipping Steers	3 75	@	5 00
HOGS—All Grades	3 25	@	3 70
WHEAT—No. 2 Red	....	@	63½
OATS—No. 2	...	@	17
CORN—No. 2	25	@	25¼
NEW ORLEANS.			
FLOUR—High Grade	3 25	@	3 65
CORN—No. 2	....	@	37
OATS—Western	25	@	25½
HAY—Choice	17 00	@	18 50
PORK—New Mess	8 75	@	8 87½
BACON—Sides	....	@	5⅝
COTTON—Middling	....	@	8⅝
LOUISVILLE.			
WHEAT—No. 2 Red (new)	66	@	67¾
CORN—No. 2 Mixed	32	@	32½
OATS—No. 2 Mixed	19	@	20½
PORK—New Mess	8 75	@	9 00
BACON—Clear Rib	6¼	@	6⅝
COTTON—Middling	....	@	8¾

Hiland—"I wonder why Mrs. Longtone dismissed her old family physician and called in Dr. Sugarpill." Halket—"Old Dr. Barnes advised her to take a two-mile walk every day, and keep her lips tightly closed."—Pittsburgh Chronicle Telegraph.

Softly—"Your trip to the mountains seems to have benefited you." Bilkins—"It has made a different man of me." Softly—"Is that so! Then what has become of the man I loaned ten dollars to when you left the city?"

Brown—"Our candidate says the salary of the office is no object to him." Jones—"I suppose he has his eye on the perquisites."—Brooklyn Life.

"Did you enjoy the concert, Mrs. Barber?" "They wasn't any. A man came out and banged a pianner, while his wife stood beside him shriekin' at him all the time. Seems to me they'd ought to have arrested the woman for interferin'."—Harper's Bazar.

Sympathy sometimes grows tired, but never gets crippled in both feet.—Young Men's Era.

He best keeps from anger who remembers that God is always looking upon him.—Plato.

Civility costs nothing, but buys everything.—Lady M. W. Montague.

Verse sweetens toil, however rude the sound.—Gifford.